

Controversial and Global Issues Fantasy Sports' Outcomes

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ABSTRACT

The purpose of this paper is to explore and test certain assumptions concerning the fantasy sports industry as an enabler for quick, accurate, and descriptive information to its fan from a gender perspective. However, there are distinct disadvantages that seriously active user may have on sports fantasy gambling addiction and excessive wagering may have on society in general and this study should help provide a base line for future studies. Therefore, to explore the differences, the authors sought to provide statistical evidence that collaborate differences among gender based on technology acceptance models. The sample consisted of relatively well-paid professionals who many routinely engage in fantasy sports via a personal interview procedure was implemented and highly representative of the service industry located in the metropolitan section of Pittsburgh, PA. Multivariate statistical analyses were used to test the hypotheses in determine significant gender differences. It was found that those male professionals who were intensely engaged fantasy sports respondents and who spent considerable amount of money on fantasy leagues, found fantasy guides, expert opinions, and related information helpful in changing rosters, and were intensive users of mobile technology for personal use were significant and negatively related to the dependent variables, with significant gender differences. Such respondents did not perceive there was a global concern for fantasy gambling activities, although a considerable portion of the sample felt otherwise.

1.0 INTRODUCTION

Undoubtedly, the success of the sports industry can be measured by its extremely loyal and growing fan base. Gambling activities associated with fantasy sports-related activities require the industry to better ensure that customer safety and security features are added and kept current in the face of identity theft and gender representation. The following sections introduce the reader to these needs and the major goals of the present fantasy sports study. Basically, the aim of the present study is to deal with the balance of expectations associated with fantasy sports, its potential for abuse via workplace gambling, addiction, with the potential benefits for employee morale, collegiality, and enhanced fan engagement.

1.1 Fantasy sports as marketplaces

Collegiate and professional sports, such as the National Basketball Association (NBA) and the National Football League (NFL), have provided entertainment to its customers for over 90 years. While the marketing plan employed by professional sports has been relatively successful and there are several definitive factors that attract fans to fill stadiums and purchase leagued-sponsored merchandise, they have received competition in recent years through the development and promotion of fantasy sports, especially fantasy football. Nesbit and King (2010) cited that the fantasy sports industry, driven mainly by the love for fantasy football, has grown to over 18 million players, resulting in over US\$2 billion dollars. Nesbit and King, via survey methods, tested whether actual engagement in fantasy football, both passively and actively, participation significantly increased NFL game attendance. They found that fantasy fans are likely to attend at least one game per year and that they attend between 0.22 and 0.57 more games per season. The growth of fantasy sports has paralleled in many ways the various social media and electronic platforms of crowdfunding (Cockrell, Meyer, & Smith, 2016).

Basically, participation in fantasy sports allows fans the virtual ability to trade, cut, and sign players at will and simulate the outcomes of such decisions in real time. Hence, participants, by behaving similar to a real sports owner, can build a team that competes against other fantasy owners. The simulations are based on the individual performance statistics of real individual players involved in professional sports. Complexities can even generate statistics and game points based on third-party sources and actual inputs from face-to-face collegiate and professional sports competition. Interestingly, Shandler (2009) noted that the U.S. Congress is on consumer protection legislation, with the passage of the Unlawful Internet Gambling Enforcement Act of 2006, establishes a legal definition for fantasy sports and states that fantasy sports in general cannot be considered gambling based on that definition.

Many of the basic intrinsic motivations, such as escapism, entertainment, and social interactions, for attracting a loyal professional sport fan are similar to the many reasons participants are attracted by fantasy sports (Brock, 2006; Davis & Duncan, 2006; Moorman, 2008). It is estimated in 2014 that 19.4 million people age 12 and above in the U.S. and Canada will play fantasy sports and 34.5 million people have ever played fantasy sports (Moorman, 2008). In a comprehensive study (Allen, Kustov, & Recck, 2007) it was found that 22% of U.S. adult males with Internet access, aged 18 to 49 years old, played fantasy sports. In general, the fantasy sports-related activities are estimated to have at least a US\$3 to 4 billion annual economic impact across the sports industry (Grady, 2007). This apparent appeal in fantasy sports may lead to increased office pooling that has the potential to become a global workplace disruption as reported in studies that focused on similar office betting on major sporting events, such as the annual NCAA sponsored March Madness basketball tournaments (Smith, Smith, and Offodile, 2011).

Fantasy sports are extremely popular throughout the world with leagues for soccer cricket and other non-domestic based sports. Fantasy sports are games where fantasy owners build teams

that compete against other fantasy owners based on the statistics generated by individual players or teams of a professional sport. Probably the most common variant converts statistical performance into points that are compiled and totaled according to a roster selected by a manager that makes up a fantasy team. These point systems are typically simple enough to be manually calculated by a league commissioner. More complex variants use computer modeling of actual games based on statistical input generated by professional sports. Erlbaum (2006) noted that in fantasy sports there is the ability to trade, cut, and sign players, like a real sports owner. Although there are several different types of fantasy sports, fantasy football is by far the popular (Nesbit and King, 2010). In fact, Davis (2012) estimated that 32 million people presently engage in fantasy football and it is especially popular with college students. Davis suggested that empirical evidences points to active engagement in fantasy football is a classic vehicle that enhances knowledge of basic sport marketing concepts to undergraduate students.

1.2 Historical perspectives

In 1999, the NFL implemented an e-mail marketing campaign designed to better reach more technologically enabled consumers – specifically fans that had access and use computers on a regular basis (Perez, 2001). Management found that such a campaign was challenging to connect with customers due to the need to identify who their customers were, how to attract them, and how to retain and nurture them. The NFL management discovered it required a marketing plan with several functions to attract both the casual fans that surf the Internet for scores, but also hardcore fans who take advantage of chat rooms discussions (Perez, 2001). Management wanted to draw fans to its website, but wanted to develop more personalized relationships. Their approach was to provide two-way communication with its millions of monthly visitors by promoting much needed dialogue with its fan base/consumers.

The NFL management pursued an e-mail campaign that targeted each individual fan's interests via e-Dialog, a company that had a strong Track record for satisfying major clients, such as Staples and Ticketmaster. A three-year plan with e-Dialog was drawn up to use link-filled, weekly e-mail newsletters to foster relationships between the league and its fans. The two sides decided that email newsletters would be divided into three sections. The first section would contain three-to-five links to the latest news of each fans' favorite team. Subscribers would receive updated information on anything from draft picks and training camp updates to post season wrap-ups. The second section would showcase the league's merchandise and the last section would contain general information about the league. In many aspects, the campaign was a major success. The first newsletter went out in 1999 to about 300,000 fans, and that number had jumped to 1.5 million in just two years. Currently, the newsletter has grown exponentially and has been an accepted part of the NFL's e-mail campaign. Now, more technologically advanced methods of communication in the forms of blogs, text messaging, and voice mail alerts are used.

Such activity responses generated carryover to many organizers of fantasy football leagues. The campaign produced monetary results from the very start of the program; since the first newsletter

went out, the league's online sales jumped 300% from 1999 to 2001, with the league earning US\$35 to 40 million in sales from the direct marketing campaign. The e-mail marketing jumped more than 270% from 1999 to 2000 and initially emerged as the premiere online method for reaching customers and maintaining two-way relationships (Perez, 2001). Management has since developed many online public relations campaigns, taking advantage of the extreme popularity of fantasy sports to rebuild a strong and personalized relationship with its fan base, as evident by the extreme popularity of the fantasy sports among active ticket holders to NFL games (Nesbit and King, 2010). In general, fantasy sports and its many gaming activities has caught the attention of a significant following of professional team sports fans because of its ease-of use, accessibility, and entertainment qualities. The popularity of the four major message boards of fantasy sports websites, namely ESPN.com Fantasy Games, Yahoo! Fantasy Sports, FOX Fantasy Sports, and NFL Events: Fantasy Sports, are testimony to the successful interrelationship between fantasy and professional sports.

1.3 Theoretical gender difference based on technology sophistication and fantasy sport participation

A number of researchers have suggested that significant gender differences exist in the acceptance of technology in personal use (Dautzenberg, 2012; Ong & Lai, 2006; Vasumathi, 2018; Venkatesh & Morris, 2000; Yeh, Hsiao, & Yang, 2012). The results may have significant bearing on the acceptance of fantasy sport applications and its overall acceptance among males and females. In all the studies, there are specific ease-of-use inhibitors, especially for women. Unfortunately, there is a significant void in the literature concerning gender difference via these technology-based factors in the fantasy sports area from an academic perspective. There is some empirically-based research that suggests the traditional motivational factors of technology sophistication and convenience are primary enhancers of fantasy sports-gaming participation. Suh (2012) explored in a recent dissertation dealing with the psychological factors associated with fantasy sports participation, found that certain motivation factors had a statistically positive affect on attitude, but certain constraints had a statistically negative affect on attitude. Using a service-quality model, Suh found that there were statistically significant positive relationships among perceived service quality and satisfaction, attitude, and between attitude and actual amount of time and usage. This approach has been used by others in service quality applications (Rajeev, Rajagopal, & Mercado, 2013).

Specifically, in terms of overall technology sophistication, Ong and Lai (2006) found that men's rating of technology-rated variables of computer self-efficacy, perceived usefulness, perceived ease-of-use, and behavioral intention to use e-learning and computer software applications were higher than women's rating. Interestingly, Ong and Lai found that women were strongly influenced by perceptions of computer self-efficacy and ease of use, and that men's usage decisions were significantly influenced by their perception of usefulness of e-learning. The authors suggested that to increase effectiveness of e-learning, men must generally perceive that the system is useful to enhance their job productivity thereby attracting them to more useful content.

The perceived usefulness had the most significant effect on behavioral intention to use for men only, suggesting that females perceived usefulness is important, but more so for males. In fantasy sports, active participation generally requires a working knowledge of the technology and player centric strategies in order to become successful in fantasy player trades and other tactics. Perhaps this emphasis details and technological sophistication may explain the apparent dominance of males in fantasy sports engagement. It was found that perceived ease-of-use has even stronger effects than perceived usefulness both for women and men. Since it is assumed that the technological sophistication is important to increasing active participation in fantasy sports, especially football, women may but significantly hampered by perceived ease-of-use inhibitors.

Lin and Chang (2011), in similar research efforts, found that that technology readiness influenced the same set of technological variables of perceived usefulness, perceived ease-of-use, attitudes, and behavioral intentions in self-service applications. They suggested that in order to achieve better self-service technologies effective outcomes for both genders, management should pay increased attention to customers' readiness to accept such technologies. Management may positively influence the use of technology-related services by promoting opportunities that enhances optimistic and innovative outcomes for technological services. It is also important to reduce technological readiness inhibitors, especially discomfort, insecurity, and identity threat factors in order to simultaneously reduce 'reluctance to use' service technology. These concepts were at least partially validated by Deng, Liu, and Qi, (2011), who examined research based on the Unified Theory of Acceptance and use of technology models. The authors found that ease of use factors are extremely important and by reducing technology readiness inhibitors can significantly increase acceptance of new technologies.

Maldonado, Khan, Moon, and Rho (2011) validated a modified unified theory of acceptance and use of technology model by adding an e-learning motivation construct in order to specify the role of e-learning motivation in the use and adoption of related technology systems. The authors found that the constructs of e-learning motivation and social influence had a positive influence on behavioral acceptance and intention for both males and females.

Lee, Kwak, Lim, Pedersen, and Miloch (2011), found that the that the perceived roles of gender, sensation seeking, locus of control, and need for cognition in predicting attitudes and intentions relative to participating in fantasy football league had similar results in most technology or knowledge-based research. Specifically, they used technological knowledge of the fantasy sport [domain-specific construct (i.e. fantasy football knowledge)] to serve as a moderator to control the potential attenuating effects of personality and other related behavior effects. The authors found that males exhibited significant sensation seeking, locus of control, and domain-specific behaviors that were related to both attitudes and intentions toward participating. For males, knowledge of the game acted as a moderator between locus of control and intentions. Interestingly, none of the personality traits were associated with attitudes or intentions for females. It was hypothesized that males should exhibit statistically significant traits in their

attitudes and behaviors towards fantasy sport applications as compared with their working professional female counterparts.

1.4 Tenants of Customer Relationship Management

Many companies in the late 1990s and early 2000s invested quite heavily in developing systems, especially information technology (IT)-intensive approaches that tracked customer purchases, preferences, and used them to predict buyer behavioral patterns. These systems and approaches were generically referred to as customer relationship management systems (CRM) with the hopes that they would have high payoffs in strengthening customer relationships. To their dismay however, not many benefits were reaped, thereby causing sales of CRM systems to plummet. Many believed it was just another over-hyped IT investment. Instead of dying off something unexpected happened. A number of senior executives became enthusiastic about CRM causing them to look into employing CRM systems (Rigby and Ledingham, 2004; Wang and Feng, 2012). Many companies are now taking a more disciplined approach to launching CRM. Rather than transforming the entire company at once they are launching highly focused projects with narrow scopes and modest goals that reap more benefits from the approach. They are now directing investments to solving clearly defined problems with customer relationships. In order to reap the most benefits and gain the most revenue companies need to decide what part of the organization best fits with CRM by asking themselves, according to Rigby and Ledingham (2004), four questions: Is it strategic? Where does it hurt? Do we need perfect data? Where do we go from here? The following is a discussion of the rationale of these questions. It should be remembered that the sports industry, as true for most for-profit businesses, are constantly seeking ways to discover customer or fan base attitudes and behavioral motivations that promote their use of the sports industry's products and services. Understanding these business concerns may shed light on the data and technology intimacy between industry and customers in developing strong relationships for its goods and services.

The first question to ask is if implementing CRM is strategic to the business. There is little denying that CRM requires significant investments in both time and money (Liew, 2008; Hoots, 2005; Wang & Feng, 2012). It is imperative that management implement these systems in those processes that are vital to the company's competitiveness and target these for improvement through CRM and not use it to buffer performance at the edges. In other words, CRM should be used where it strategically fits into the organization's goals. It should not be used for the sake of being used.

The second question that Rigby and Ledingham (2004) asked is where does it hurt? Although it is possible for CRM systems to manage an entire customer relationship cycle it is usually a poor choice to transform the entire business all at once. This can lead to creating unused technology capacity, unnecessary business disruptions, and failure of the payback test (Wang & Feng, 2012). Carefully examining the customer relationship cycle can unearth pernicious problems that are undermining performance. These are the hurts that should be focused on first through the CRM plan.

The third question that Rigby and Ledingham (2004) asked is do we need perfect data? A major benefit of CRM is the ability to provide real-time information on what is happening in the market at a particular time. This kind of real-time information generally comes at great costs and complex systems (Liew, 2008; Hoots, 2005). Companies need to determine whether or not perfect information is truly required throughout their customer relationship cycle or if “good enough” information will suffice. Perfect data refer to the erroneous concept that the data collected by companies contain all the relevant information to proper profile and predict consumer behavior patterns. Good enough data basically accept the proposition that perfect data do not exist and/or too expensive to collect, but does satisfy management’s desire to be successful in its attempts at consumer profiling. The fact is that few companies actually do need perfect information throughout the entire cycle. There is no need to pay for this expensive information if it is not valued.

The final question that Rigby and Ledingham (2004) asked is where do businesses go from their initial investments in CRM? Companies should not rest on their CRM laurels. Rigorous analysis of data that their systems produce helps to identify new and well-defined opportunities to extend the CRM’s power for firms to be profitable and its customers, or fans, to be success (Yeh, et al., 2012). Many times, these opportunities are adjacent to the customer relationship cycle.

In general, CRM can be applied with great precision to target critical gaps in the customer relationship cycle to increase performance, which are relatively common approaches used in manufacturing and operations research (Chaturvedi & Chakrabarti, 2018; Gothwal & Raj, 2018; Hossain & Hossain, 2018; Kailash, Saha, & Goyal, 2018; Oey & Nofrimurti, 2018), both from fans and employees. The sports industry traditionally has seen the involvement in fantasy sports as a competitor to attending professional sporting events and purchasing merchandise. Recent research previously cited has suggested that both forms of sport activity actually move in positive and commentary position. When companies put their strategic goals ahead of technological capabilities when implementing a CRM system, it should have greater impacts with lower investment costs, less risk, and greater operational effectiveness (Sharma & Sharma, 2018; Verma, Sharma, & Kumar, 2018; Xu, Tiwari, Chen, & Turner; Yazdi & Esfeden, 2018).

The fantasy sport industry can be viewed as mostly for-profit business and understanding the consumer base is essential for deriving successful business practices. It is important that management take a more pragmatic, disciplined approach to CRM. All too often, companies look at what the software can do and fail to concentrate on what it should do and how it can improve their customer relationship cycle. Unfortunately, there is too much “technology for technology’s sake” (Bensaou & Earl, 1998, p. 119). Companies tend to invest substantial amounts of money and time in implementing systems just to have the latest and greatest and be the world leader. All IT systems should be based on strategic instinct and fall in line with the organization’s overall strategy. After implement CRM systems to solve specific problems in their customer relationship cycles, companies should not stop there. Management needs to continually analyze data in order to determine if there are other improvement opportunities.

They should keep an open mind that the opportunistic activities may lay outside of the customer relationship cycle. Continual monitoring can extend the CRM's power making the investment all that more worth it with greater payoffs. Hopefully, as will be demonstrated in the present efforts, CRM-based initiatives become more successful when management understands the attitudes and behavioral patterns of its market segment, namely fantasy sport fans.

1.5 Purpose of the present study

The ultimate goal of the present study is to measure the seriousness of fantasy sports engagement with controversial and sustaining issues of online gambling and its global affects among working professionals from a gender perspective. This, hopefully, will be accomplished through a detailed descriptive analysis and the formal testing of three specific research hypotheses. As demonstrated in the previous sections, there is some evidence that a gender bias does exist, at least in technologically sophistication that could carry over to online gambling and social concerns. Please note that the emphasis of the present research effort is not from a theoretical viewpoint, but rather of gender differences in terms of an aspect of CRM, namely protecting customer privacy and security while providing service. It was assumed that the more technology savvy the person is, the more likely they are to access online information concerning expert opinions and advice from other fantasy-based websites, as well as wager considerably larger amounts of financial resources. These assumptions are relatively well established in section 1.3, and that a gender bias is expected. Another important assumption, and the underlying theoretical basis for the empirical section of the present study, is that the fantasy sports industry relies highly on efficient CRM (Anton & Petouhoff, 2002; Pries & Stone, 2004; Smith, Smith, & Offodile, 2011) for much of its continued success. These research assumptions engendered the specific hypotheses illustrated in the conceptual model in Figure 1. The negative and positive engagement factors that are typically present in the decision of both fans and managers of the workplace environment, outlined in the model, include the ability to adequately balance the advantages and disadvantages associated with such fantasy sports engagement and, ultimately, creating a compromise strategy that works for everyone.

Growing Consumer Base



Specific target market opportunities and profitability's, increased employee morale due to office cohesiveness and sense of



Corporate Sponsorship Opportunities

Corporate-based revenues, naming rights, reputations, branding opportunities.



Economic Stimulation

Increased fan base, increased employee productivity, happy works are productive workers, sense of unifying purpose and commitment to organizational goals.



NEGATIVE CONSIDERATIONS

Gambling Addiction

Negative Social Consequences

Global Gambling and Regulatory Concerns

Fan Loyal Conflicts of Real Teams vs. Fantasy Sports and E-sports

Lost Employee Productivity Concerns

Moral Ethical Dilemmas

Missed Allocation of Scarce Resources

Figure 12 Figure 1. Basic conceptual model illustrating the advantages and disadvantages of active fantasy sports participation.

Several hypotheses were selected based on the thesis of the present study and their implications from a gender perspective in terms of active and passive engagement in fantasy sports' activities and possible links to office gambling activities. Such activities may prove to distract or inhibit for the development of employee morale, productivity, and cohesiveness (Smith, 2017; Smith & Clinton, 2016; Smith & Offodile, 2016). The three hypotheses chosen for the analysis include the following:

H1: More web-engaged males, regardless of their frequency of use of sports fantasy activities, are less concerned than their female counterparts that such office gambling endeavors lead to work-related concerns of addiction and other related problems within the office environment.

H2: Working female professionals, regardless of frequency of use of sports fantasy activities, are more concerned than their male counterpart that gambling endeavors than their female counterparts within the office environment, especially if not properly regulated may reinforce work-related concerns of addiction and other related problems within the office environment.

H3: Working business professionals, regardless of gender, that are generally older, more educated, and have access to more disposable income are more concerned that highly active engagement in fantasy sports will lead to work-related concerns of loss of office productivity and other related problems within the office environment.

As previously stated, the ultimate goal is to measure the seriousness of fantasy sports engagement with controversial concerns online gambling and its global affects among working professionals from a gender perspective. This, will be accomplished through a detailed descriptive analysis and the formal testing of the research hypotheses. Despite the advantages participation in fantasy sports can provide, the industry can be abused resulting in negative consequences, as illustrated from an examination of the theoretical model (Figure 1). That is, the gambling aspects can influence business concerns for loss of employee productivity, which may be a global issue of loss of competitive advantages among firms (Smith, Smith, & Offodile, 2011). Considerable research in international journals has been devoted to this topic of the global reach of Internet gambling addiction, including office betting on sporting events, especially in terms of office productivity factors (Johnson & Rawlins, 2008; Messarra, Karkoulia, & McCarthy, 2011; Rothstein, Liva, and Stinson, 2007). Fantasy gaming, as may be true with other legal forms of the gaming industry, is addictive to some and can become harmful to the user in a variety of ways (Shandler, 2009). Over-zealous fantasy sports fans may suffer from addictive behaviors that disrupt social ties, interfere with personal and/or work-related relationships that result in workplace issues that must be addresses by management (Young & Pedersen, 2010).

2.0 METHODOLOGY

This section deals with the specific descriptive and inferential statistics that were collected and analyze in an attempt to test the three specific research hypotheses. A discussion of the sampling

techniques, appropriate statistical techniques, and a detailed critique of the results of the statistical analysis of the three specific research hypotheses were included.

2.1 Sample characteristics

In order to test the research assumptions that fantasy sports has rivaled professional sports in fan loyalty and commitment as an entertaining and profitable hobby, an empirically based approach was selected by taking established practices by previous studies, such as works cited by The survey instrument was modeled after previously cited work by Lee, et al. (2011) and Young and Pedersen (2010). This appeal in fantasy sports and related office pooling has potentially become a global workplace disruption if left unsupervised by management. To test this and other assumptions, a basic survey instrument was developed for exploratory purposes. The fantasy sports industry relies heavily on efficient CRM-based practices, especially in terms of customer privacy and security safeguards, for its success. As with any business enterprise, providers of fantasy sports must have the ability to generate quick, accurate, and descriptive information to its consumers, which in turn, should generate enhanced customer loyalty and retention. The basic thesis of the present research is that such business-like practices designed for efficiency in terms of easy-for-use and technological sophistication may have negative consequences, such online gambling within the office environment that may result in distractive behavior (i.e. loss of employee productivity and cohesiveness). Inherent in any study that deals with technological and degree of fan knowledge of playing strategies are potential gender biases, as previously discussed in the review of the literature. Ultimately, this gender bias may be reflected on the potentially damaging societal effects of fantasy sports' involvement in online betting within the workplace environment. It is assumed that fan loyalty is directly related to increased degree fantasy sport participation, and higher levels of participation are related to higher levels of sport-related office pooling.

With this in mind, the survey instrument consisted of 25 questions that were developed from the review of business literature to try to understand how relatively well-educated working professionals felt about fan loyalty and retention efforts and behaviors associated with fantasy sports. Sample section was based on the perceived importance of Pittsburgh, PA as having a major sports fan base, especially in terms of fantasy football. A personal interview procedure using a standardized instrument was employed. The survey instrument was modeled after previously cited work by Lee, et al. (2011). The instrument was previously pilot tested for minimum execution time and confusion, and was implemented via a focused sample of employed professionals, representative of the service industry located in the metropolitan section of Pittsburgh, PA. The initial results provided the authors the opportunity to streamline the time to execute the questionnaire and to minimize respondents' potential comprehensive problems. The reliability coefficients illustrate relatively stable measures of basic concepts outlined by the previous study using much of the questionnaire by Lee, et al. (2011).

Over a 3-month period, 500 professional personnel from several large-area firms were solicited to complete the study, which resulted in 200 useable questionnaires (response rate of 40%). The

respondents were primarily in service-related positions, representing marketing and financial services (98%). The professional workforce was generally well-educated. It was found that the 56% of the respondents held a bachelors' degree, 22% had a masters' degree or beyond. In terms of gender, as expected there were more males (N = 147, 73.5%) than females (N = 53, 26.5%) involved in fantasy football. However, a simple discriminative analysis illustrated that there were no statistically relevant differences in the basic demographic variables of age and disposable income.

2.2 Statistical techniques

Mostly scale and/or interval measurements (which are traditionally classified for data analysis as quantitative variables), except for gender, were used to develop graphs and perform the relevant statistical analyses. By definition, these types of interval-coded responses are considered quantitative variables, suitable for principal-component and regression analyses via the various commercially well-established SPSS software packages. Questions concerning degree of sophistication of Internet and mobile-technology usage, ease-of-use considerations (Davis, 1989) and if fans would value efforts to enhance the fantasy experience were used (Young and Pedersen, 2010). The dominant statistical techniques used in the present study were cross-tabulated graphs, regression and correlation analyses, and Waller-Duncan multiple comparisons statistics.

3.0 RESULTS AND DISCUSSION

This section describes and tests the specific assumptions and hypotheses previously stated. There are distinct advantages participation in fantasy sports for engaged fans, but there significant negative consequences that must be equally considered in such participation. From a workplace perspective, the gambling aspects frequently associated with fantasy sport participation can impact management's concerns and, hence, control of such activities, due to loss of employee productivity. We have hypothesized that these may be not just be a localized set of issues, but rather a potentially global issue of loss of competitive advantages among firms, especially from a gender perspective.

3.1 Descriptive Comparisons

Table 1 displays selected frequencies of the professionals' responses to the survey instrument. As evident from an inspection of the tables, the majority of respondents were web-enabled. It was found that the respondents, in aggregate, have personal Internet usage of 75% daily, work-related Internet usage of 72.5% weekly or daily, online shopping at least monthly of 68.5% and used on a daily basis credit and/or debit card to make purchases of 60%. They were somewhat divided on the issue that global gambling in fantasy sports problematic for society (41% thought that it was rarely or never an issue, while 17.5% felt it was an issue often, and 39% felt it was a moderately important issue). There were relatively high levels of support (mean of 2.9 or greater out of 5) for the following variables: Watch games strictly to see fantasy players perform (2.96), fantasy guides, expert opinions, and information helpful changing rosters (2.93), player notes,

information, and recommendations helpful (3.18), satisfied with the information fantasy server provides (3.11), navigate from fantasy sites for better information (2.92), and fantasy sites, if free, would positively affect participation (3.03).

Evidently, sports fantasy fans and their application providers have demonstrated a technology prowess and a sustainable customer relationship within the highly competitive nature of the industry. In general, the professional sample, as well as the population of working employees that it was derived, was biased towards web-enabled and technologically sophistication applications. These apparently strong relationships are also graphically illustrated in Figure 2, which presents selected cross-tabulations of perceptions that global gambling in fantasy sports is socially problematic with technology sophistication characteristics. From an inspection of the various graphs, the degree of concern for the negative consequences associated in fantasy sports engagement was quite dispersed, and probably not based on simply on the intensity of technology usage. Figure 3 illustrates that there is considerable concern that global gambling in fantasy sports may be socially problematic.

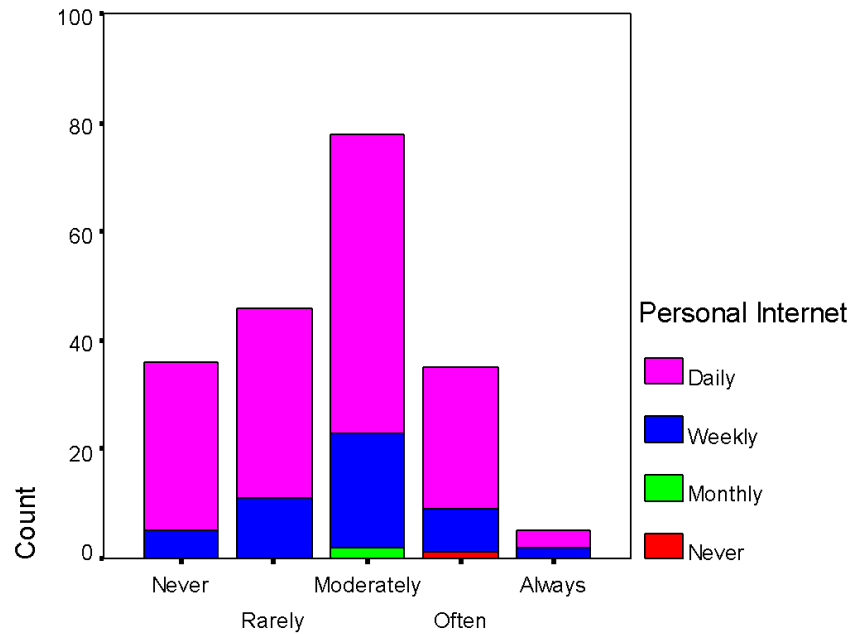
Independent Variables	N	Mean	Std. Deviation
Degree personal Internet usage (1 = never, 5 = always)	200	4.72	0.530
Degree work-related Internet usage (1 = never, 5 = always)	200	3.91	1.172
Days per week spend personal mobile technology (1 = 0 to 1, 4 = 6 to 7)	200	3.90	0.338
Hours per week spend work mobile technology (1 = 0 to 5, 4 = 15+)	200	2.14	1.094
Degree of shopping online (1 = never, 5 = always)	200	3.15	1.115

Credit or debit card to make purchases	200	4.37	0.948
Cheer for teams that normally would not in fantasy play	200	2.51	1.125
Cheer against hometown team or players in fantasy play	200	1.88	1.144
Watch games strictly to see fantasy players perform	200	2.96	1.155
Fantasy guides, expert opinions, and information helpful changing rosters	200	2.93	1.282
Player notes, information, and recommendations helpful	200	3.18	1.377
Satisfied with the information fantasy server provides	200	3.11	1.221
Navigate from fantasy sites for better information	200	2.92	1.270
Change fantasy roster in a normal week	200	2.62	1.123
Problems with properly working fantasy	200	2.21	1.041

providers			
Follow-up by the website after a problem occurs	200	2.61	1.164
More needs done to prevent glitches	200	2.94	1.323
Spend considerable amount of money on fantasy leagues	200	2.89	1.417
Fantasy sites, if free, would positively affect participation	200	3.03	1.268
Global gambling in fantasy sports problematic for society (1 = never, 5 = always)	200	2.64	1.048
Education level (1 = High School, 5 = beyond masters)	200	2.66	0.865
Age level (years) (1 = 18 to 25, 7 = 50+)	200	2.30	1.459
Disposable income level (US\$)	200	3.09	1.584
Valid N	200		

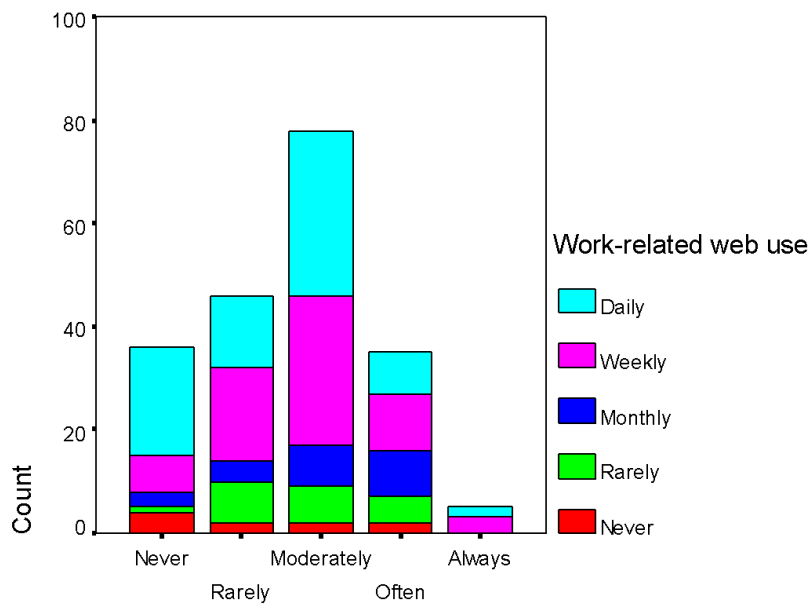
Table 20 Descriptive statistics of selected variables dealing with aspects of the sports fantasy industry as well as selected demographic information.

A. Degree of personal Internet usage.



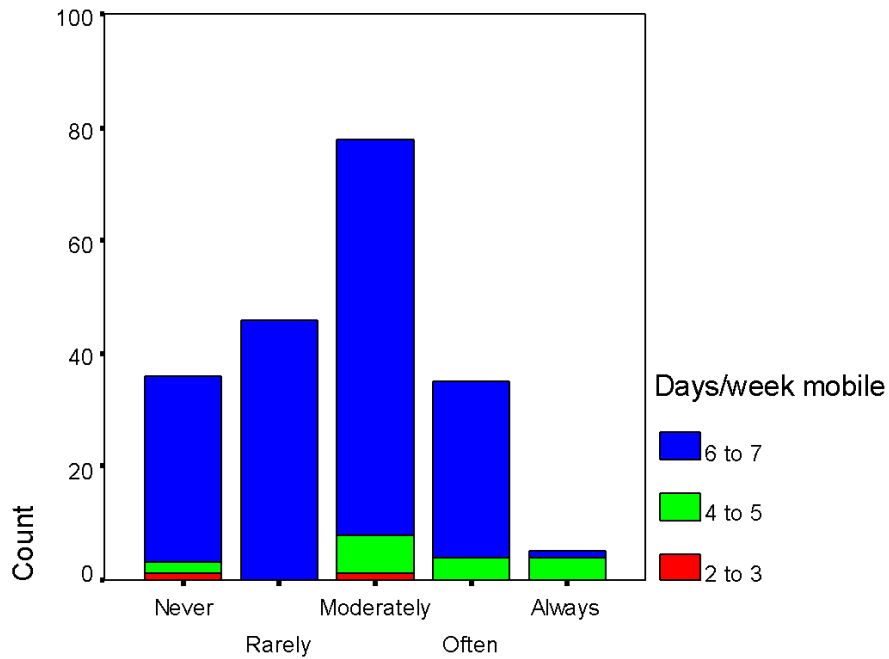
Global gambling in fantasy sports problematic for society

B. Degree of work-related Internet usage.



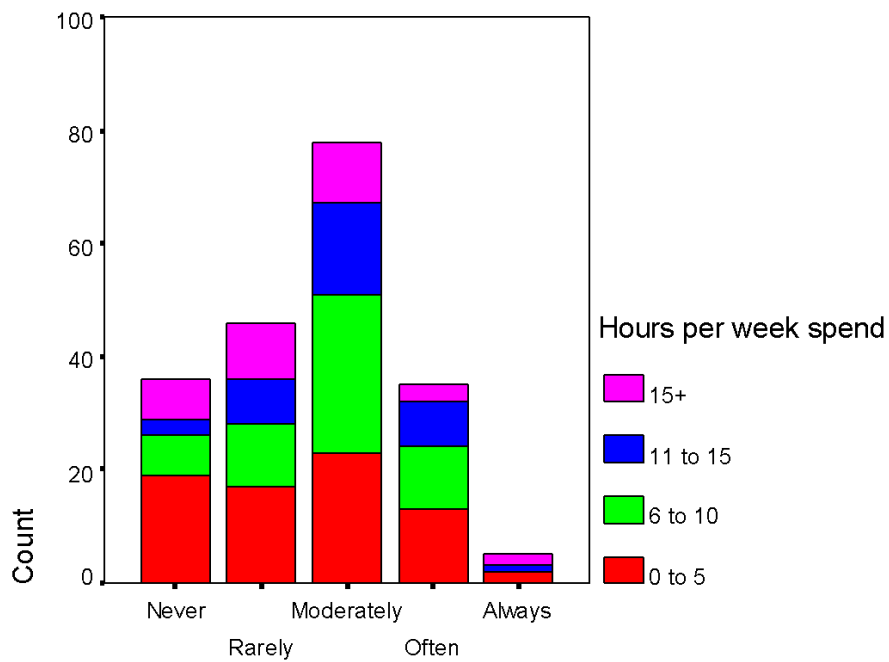
Global gambling in fantasy sports problematic for society

C. Days per week spend on personal mobile technology.



Global gambling in fantasy sports problematic for society

D. Hours per week spend on work-related mobile technology.



Global gambling in fantasy sports problematic for society

Figure 13 Cross-tabulation of perceptions of degree that global gambling in fantasy sports is socially problematic with technology sophistication characteristics.

Global gambling in fantasy sports problematic

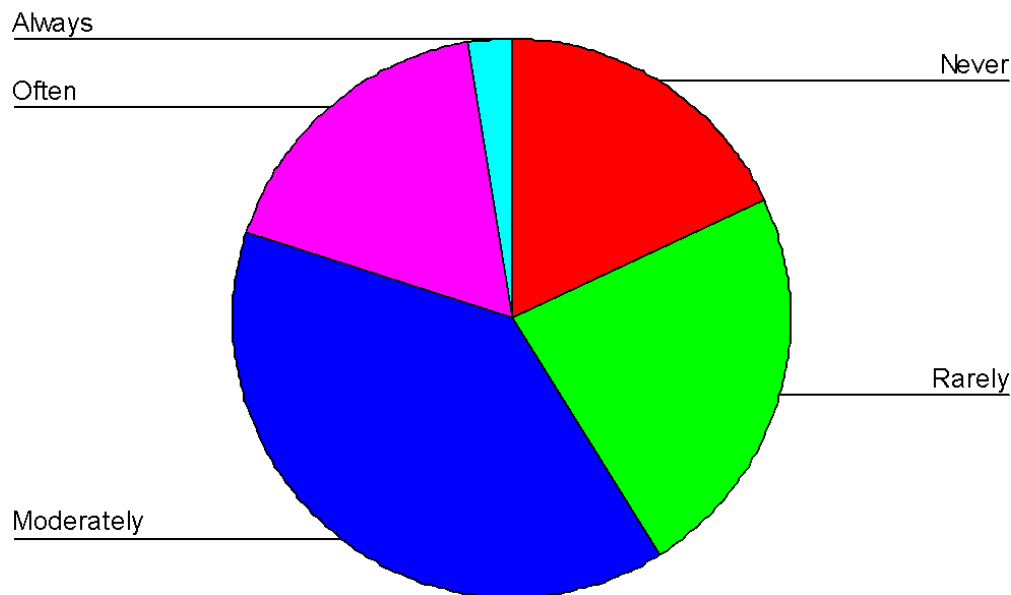


Figure 14 Degree that global gambling in fantasy sports socially problematic.

3.2 Hypothesis-testing results

The three specific research hypotheses, restated for simplicity, statistical techniques, listing of dependent and independent variables, and basic analysis are found in this section. Reference to the validity and accuracy of the results are cited. It can be safely assumed from the reader's standpoint that any essential assumption of the particular statistical technique used is satisfied and verified.

3.2.1 Specific-research hypothesis (H1) results

For the analysis, linear regression was performed using the scale-based variable global gambling in fantasy sports problematic for society, selecting only cases for males as the dependent variable with independent variables which associated with engagement into fantasy sports, technology sophistication, and selected scale demographic characteristics of working professionals. In general, the t-test associated with the regression results is an extra hypothesis-testing step, which

requires steps outside the normal procedures of the initial regression analysis results, the research must then place the constructs and regress it against another factor-based composite or other dependent variable. When the test is complete, as evident from the tables, the beta (rather the standardized beta coefficients) is tested against the null hypothesis of zero. So, the t-test is a test of the important statistical contribution of the regression coefficients and part of the standardized output of the SPSS software.

The basic statistical test for significance in hypothesis testing using multiple linear regression analysis is typically performed via the analysis of variance. The test is used to check if a linear statistical relationship exists between the response variable and one or more of the predictor variables. The statements for the hypotheses are in the general form of the following:

$$H_0 : \beta_1 = \beta_2 = \dots = \beta_k = 0$$

$$H_1 : \beta_j \neq 0 \quad \text{for at least one } j$$

The test for the null hypothesis (H_0) is completed the using the F -statistic:

$$F_0 = \frac{MS_R}{MS_E}$$

Where MS_R is designed as the regression mean square and MS_E is the error mean square. This procedure is reflected in Table 2, part B for the testing of the first hypothesis.

In terms of texting the contributions of the individual independent variables to the regression equation in terms of variance explained, the addition of a significant variable to a regression model makes the model more effective, while adding other variables may not improve its performance in predicting the dependent variable. The hypothesis statements to test the significance of a particular regression coefficient, β_j , are as follows:

$$H_0 : \beta_j = 0$$

$$H_1 : \beta_j \neq 0$$

The test statistic for this test is based on the t -test distribution:

$$T_0 = \frac{\hat{\beta}_j}{se(\hat{\beta}_j)}$$

Where the term, $se(\hat{\beta}_j)$, is the standard error associated with the regression coefficients associated with each independent variable in the regression equation. In general, one would fail to reject the null hypothesis if the *t-test* statistic lies in the acceptance region:

$$-t_{\alpha/2, n-2} < T_0 < t_{\alpha/2, n-2}$$

Overall, the *t-test* statistic aids in the measurement of the contribution of a variable while the remaining variables are included in the model. For example, if the multiple linear regression model, $\hat{y} = \hat{\beta}_0 + \hat{\beta}_1x_1 + \hat{\beta}_2x_2 + \hat{\beta}_3x_3$, was tested, and the first term was selected, i.e. $\hat{\beta}_1$, then the test will check the significance of including the variable x_1 in the model that contains x_2 and x_3 (i.e. the model $\hat{y} = \hat{\beta}_0 + \hat{\beta}_2x_2 + \hat{\beta}_3x_3$). This test is standard procedure in most statistical packages and is reflected in the Table 2, part c as part of the regression analysis for the first hypothesis.

As shown in Table 2, total variance explained was 37.7% (26.7% adjusted) and the overall relationship was found to be highly significant ($F = 3.412$, $p < .001$). However, of the 22 independent variables as previously described in Table 1, a closer inspection found that only the variables in Part C of Table 2, found that seven independent variables were found to be associated with global gambling in fantasy sports problematic for society.

As theoretically expected, those intensely engaged fantasy sports respondents who spent considerable amount of money on fantasy leagues ($t = -2.330$, $p = .021$), found fantasy guides, expert opinions, and related information helpful in changing rosters ($t = -2.808$, $p = .006$), and were intensive users of mobile technology for personal use ($t = -3.062$, $p = .003$) were found to be significant and negatively related to the dependent variable. Such respondents did not perceive there was a global concern for fantasy gambling activities. Those professionals who thought that if sports fantasy sites would be free, would positively affect participation, and would result in an increase concern for global gambling problems for society ($t = 3.867$, $p < .001$). Interestingly, there was an inverse relationship between education level of the respondent and concern for the global implications of gambling on sports fantasy activities ($t = -2.302$, $p = .023$). That particular relationship will be inspected in more detail in the testing of H3. Therefore, the first hypothesis, H1, was formally accepted, suggesting that more engaged male users of sports fantasy activities are less concerned that such gambling would lead to global problems of addiction and related problems for society.

Part A: Model Summary.

R	Adjusted R Square		Std. Error of the Estimate
Gender status = Male (Selected)			
0.614	0.377	0.267	0.841

Part B: ANOVA results.

Source of Variation	Sum of Squares	df	Mean Square	F-ratio	Significance
Regression	53.043	22	2.411	3.412	<.001 (HS)
Residual	87.624	124	0.707		
Total	140.667	146			

Part C: Coefficients-testing results.

Independent Variables	Un-standardized Coefficients		Standardized Coefficients	t-test	Significance
	B	Std. Error	Beta		
(Constant)	5.753	1.218		4.721	
Degree Internet for personal use	-0.175	0.148	-0.100	-1.180	.240 (NS)
Degree Internet for work use	-0.150	0.079	-0.175	-1.902	.060 (NS)
Days per week spend personal mobile technology	-0.808	0.264	-0.250	-3.062	.003 (HS)
Hours per week spend work mobile technology	0.040	0.087	0.041	0.456	.649 (NS)
Degree of shopping online	0.063	0.073	0.074	0.869	.386 (NS)
Credit or debit card to make purchases	0.124	0.110	0.109	1.129	.261 (NS)
Cheer for teams that normally would not in fantasy play	0.038	0.099	0.042	0.384	.701 (NS)
Cheer against hometown team or players in fantasy play	0.018	0.081	0.022	0.224	.823 (NS)
Watch games strictly to see fantasy players perform	0.146	0.091	0.155	1.601	.112 (NS)
Fantasy guides, expert opinions, and information helpful changing rosters	-0.224	0.080	-0.267	-2.808	.006 (HS)
Player notes, information, recommendations helpful	0.083	0.073	0.109	1.125	.263 (NS)

Satisfied with the information fantasy server provides	0.061	0.094	0.068	0.652	.515 (NS)
Navigate from fantasy sites for better information	0.011	0.087	0.014	0.132	.895 (NS)
Change fantasy roster in a normal week	0.143	0.112	0.149	1.286	.201 (NS)
Problems with properly working fantasy providers	-0.110	0.124	-0.107	-0.893	.374 (NS)
Follow-up by the website after a problem occurs	-0.095	0.077	-0.106	-1.241	.217 (NS)
More needs done to prevent glitches	0.125	0.077	0.155	1.627	.106 (NS)
Spend considerable amount of money on fantasy leagues	-0.143	0.061	-0.198	-2.330	.021 (S)
Fantasy sites, if free, would positively affect participation	0.276	0.071	0.328	3.867	<.001 (HS)
Education level	-0.227	0.099	-0.201	-2.302	.023 (S)
Age level (years)	0.006	0.084	0.009	0.070	.944 (NS)
Disposable income level (US\$)	0.061	0.079	0.093	0.772	.441 (NS)

Dependent Variable: Global gambling in fantasy sports problematic for society, selecting only cases for males. NS denotes no significance at the .05 level for a two-tailed test; MS denotes marginal significance at the .05 level for a two-tailed test; HS denotes highly significant at the .01 level for a two-tailed test.

Table 21 Relevant statistics associated with testing H1. Part A displays the model summary, Part B the overall results, and Part C inspects specific contributions of each component in the hypothesis (Dependent variable: Global gambling in fantasy sports problem)

3.2.2 Specific-research hypothesis (H2) results

Once again, we analyzed the dataset using multiple linear regression techniques with the dependent variable, Global gambling in fantasy sports problematic for society, selecting only cases for males. This dependent variable was statistically regressed against the various fantasy sports engagement, and demographic independent variables that were previously defined in the formal testing of the first hypothesis, H1. As shown in Table 3, total variance explained in the dependent variable was determined to be 57.2% (25.8% adjusted) and the overall relationship was not found to be statistically significant ($F = 1.824$, $p = .063$). However, from closer inspection of the 22 independent variables in Part C of Table 3, only the variables, problems with properly working fantasy providers ($t = 2.379$, $p = .024$), which was found to be positively related to global gambling concerns, and more needs done to prevent glitches ($t = -2.119$, $p = .042$), which was found to be negatively related to the dependent variable, presented several interesting results.

Part A: Model Summary.

R	Adjusted R Square	Std. Error of the Estimate
Gender status = Female (Selected)		
0.756	0.572	0.258
		0.990

Part B: ANOVA results.

Source of Variation	Sum of Squares	df	Mean Square	F-ratio	Significance
Regression	39.339	22	1.788	1.824	.063 (NS)
Residual	29.416	30	0.981		
Total	68.755	52			

Dependent Variable: Global gambling in fantasy sports problematic for society, selecting only cases for females. NS denotes not statistically significant at the 0.05 level for a two-tailed test.

Part C: Coefficients-testing results.

Independent Variable	Un-standardized Coefficients		Standardized Coefficients	t-test	Significance
	B	Std. Error	Beta		
(Constant)	0.314	4.220		0.074	0.941
Degree Internet for personal use	-0.052	0.831	-0.020	-0.062	.951 (NS)
Degree Internet for work use	0.023	0.162	0.025	0.139	.890 (NS)
Days per week spend personal mobile technology	0.168	0.442	0.062	0.379	.708 (NS)
Hours per week spend work mobile technology	-0.134	0.176	-0.150	-0.758	.454 (NS)
Degree of shopping online	0.045	0.260	0.041	0.174	.863 (NS)
Credit or debit card to make purchases	0.272	0.210	0.266	1.290	.207 (NS)
Cheer for teams that normally would not in fantasy play	0.135	0.306	0.123	0.441	.662 (NS)

Cheer against hometown team or players in fantasy play	0.100	0.267	0.084	0.376	.710 (NS)
Watch games strictly to see fantasy players perform	-0.034	0.265	-0.037	-0.128	.899 (NS)
Fantasy guides, expert opinions, and information helpful changing rosters	-0.278	0.366	-0.356	-0.759	.454 (NS)
Player notes, information, recommendations helpful	0.521	0.448	0.680	1.163	.254 (NS)
Satisfied with the information fantasy server provides	-0.080	0.457	-0.097	-0.175	.862 (NS)
Navigate from fantasy sites for better information	-0.241	0.242	-0.268	-0.994	.328 (NS)
Change fantasy roster in a normal week	-0.022	0.276	-0.021	-0.078	.938 (NS)
Problems with properly working fantasy providers	0.627	0.264	0.683	2.379	.024 (S)
Follow-up by the website after a problem occurs	-0.178	0.224	-0.206	-0.791	.435 (NS)
More needs done to prevent glitches	-0.312	0.147	-0.421	-2.119	.042 (S)
Spend considerable amount of money on fantasy leagues	0.023	0.268	0.026	0.087	.932 (NS)
Fantasy sites, if free, would positively affect participation	0.449	0.138	0.592	3.251	.003 (HS)
Education level	-0.318	0.377	-0.199	-0.845	.405 (NS)
Age level (years)	0.178	0.254	0.242	0.702	.488 (NS)
Disposable income level (US\$)	-0.198	0.183	-0.315	-1.079	.289 (NS)

Dependent Variable: Global gambling in fantasy sports problematic for society, selecting only cases for females. NS denotes no significance at the .05 level for a two-tailed test; HS denotes highly significant at the .01 level for a two-tailed test.

Table 22 Relevant statistics associated with testing H2. Part A displays the model summary, Part B the overall results, and Part C inspects specific contributions of each component in the hypothesis (Dependent variable: Global gambling in fantasy sports problem)

Perhaps females, as a whole, do not find sports fantasy activities are potentially problematic to society as their male counterparts, which may be function of the smaller portion of females directly involved in such activities. In order to verify this phenomenon, a Chi-square test was

performed on as a function of gender. As suspected, there was an overwhelming male influence in becoming actively involved in fantasy sports gambling activities as measured by the amount of capital tied to such activities (Chi-square = 25.933, $p < .001$). Although there were a number of females that stated that they placed considerable amount of money on sports fantasy games often ($n = 13$), no females were very involved, as evident that no females were always placing large amounts of money as compared to their male counterparts ($n = 24$). Hence, the second hypothesis, H2, was formally rejected and expected.

A. Actual count.

Coding Scheme		Gender status		Total
		Male	Female	
Spend considerable amount of money on fantasy leagues	Never	28	27	55
	Rarely	16	7	23
	Moderately	29	6	35
	Often	50	13	63
	Always	24	0	24
Total		147	53	200

B. Chi-square test results.

Statistics	Value	df	Asymptotic Significance (two-sided)
Pearson Chi-Square	25.933	4	<.001 (HS)
Likelihood Ratio	30.580	4	<.001 (HS)
Linear-by-Linear Association	22.735	1	<.001 (HS)
N of Valid Cases	200		

No cells (0%) have expected count less than 5; the minimum expected count is 6.10. HS denotes highly significant at the .01 level.

C. Symmetric measures.

Statistics		Value	Approximate Significance
Nominal by Nominal	Contingency Coefficient	0.339	<.001 (HS)
N of Valid Cases		200	

HS denotes highly significant at the .01 level.

Table 23 Cross-tabulation statistics of degree spent considerable amount of money on fantasy leagues as a function of gender status

In essence, the users of fantasy sports, as well as the technologically savvy, tended to navigate away from their provider page and sought out the best information they can find to use in their gambling decisions, regardless of gender. The more intensive users of fantasy sporting materials, as in many video-game users, acknowledge that gambling on outcomes adds to the stakes and, thus, the customer value of experience aspects of the game. These intensive players

rarely acknowledge that such activities are harmful to society and typically deny that they are habit forming, yet are quick to point that compulsive gambling has serious negative consequences to society.

3.2.3 Specific-research hypothesis (H3) results

The formulation of H3 suggested that working professionals, regardless of gender, that are characterized as older, more educated, and have access to more disposable income would be more concerned that highly active engagement in fantasy sports may lead to global concerns of addiction and related problems for society. This hypothesis test was approached differently from the previous tested by using the t and r-tests. The objective as to find the mean response with the same dependent variable used in the previous two hypotheses, global gambling in fantasy sports problematic for society, with the demographic variables of age, education, and disposable income. For this particular analysis, the means for the dependent variable was compared for each demographic characteristic via Waller-Duncan multiple comparisons statistics. The first table in the Waller-Duncan multiple comparisons' analysis performs an F-statistic to determine if statistically relevant groups or pairings exists in overall explained variance (part A of Table 7). The second step in the process is to actually look at these significant pairs to determine what the pairs are in terms of the dependent variable (part B of Table 7).

As illustrated in Table 5, paired-samples statistics and correlations (Table 6) are displayed and as anticipated, there were significant relationships among the demographic variables and concern for global gambling in fantasy sports as problematic for society; namely by education level ($r = -0.188$, $p = .008$) and disposable income level ($t = -3.370$, $p = .001$). Based on the ANOVA-related hypothesis-testing results found in Part B of Table 7, the same relationship with disposable income was found to be statistically significant (with results of $F = 3.032$, $p = .019$).

Table 7 displays the relevant Waller-Duncan multiple comparisons statistics and associated groups as a function of the means of the dependent variable, global gambling in fantasy sports problematic for society, with disposable income. Traditionally, an ANOVA table is part of the standard output statistics associated with the Waller-Duncan multiple comparisons. It should be obvious that if there were not significant explained variance group the treatments, there would be no statistical groups. So, only the variables that had significant amounts of explained variance, as demonstrated by the ANOVA test results, had relevant groups in the multiple comparisons. As noted, for the variables with no statistically explained variances, there were no multiple comparisons grouping. The results demonstrated that higher levels of concern were associated with less education about the professional respondents (always a concern for global gambling in fantasy sports had a mean of 1.80 for education, while never a concern had the highest mean of 2.92). Disposable income had, as expected, highly significant positive correlations with education ($r = 0.321$, $p < .001$) and age ($r = 0.716$, $p < .001$). Evidently, the older, wealthier, and better educated felt that fantasy sports-related gambling was less of a concern to their younger, less wealthy, and less educated working professional counterparts. Therefore, the third hypothesis, H3, was formally accepted.

Part A. Paired-samples statistics.

	Independent Variable	Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Global gambling in fantasy sports problematic for society	2.64	200	1.048	0.074
	Education level	2.66	200	0.865	0.061
Pair 2	Global gambling in fantasy sports problematic for society	2.64	200	1.048	0.074
	Disposable income level (US\$)	3.10	200	1.584	0.112
Pair 3	Global gambling in fantasy sports problematic for society	2.64	200	1.048	0.074
	Age level (years)	2.30	200	1.459	0.103

Part B. Paired-samples correlations.

	Independent Variable	N	Correlation	Significance
Pair 1	Global gambling in fantasy sports problematic for society and education level	200	-0.188	.008 (HS)
Pair 2	Global gambling in fantasy sports problematic for society and disposable income level (US\$)	200	-0.037	.607 (NS)
Pair 3	Global gambling in fantasy sports problematic for society and age level (years)	200	-0.021	.765 (NS)

NS denotes no significance at the .05 level for a two-tailed test; HS denotes highly significant at the .01 level for a two-tailed test.

Part C. Paired-samples test results.

	Independent Variable	Mean	Std. Deviation	Std. Error Mean	t-test	df	Significance (two-tailed)
Pair 1	Global gambling in fantasy sports problematic for society by education level	-0.03	1.478	0.105	-0.239	199	.811 (NS)
Pair 2	Global gambling in fantasy sports problematic for society by disposable income level (US\$)	-0.46	1.931	0.137	-3.370	199	<.001 (HS)
Pair 3	Global gambling in fantasy sports	0.34	1.814	0.128	2.651	199	.009(HS)
	problematic for society by age level (years)						

NS denotes no significance at the 0.05 level for a two-tailed test; HS denotes highly significant at the .01 level for a two-tailed test.

Table 24 Relevant statistics associated with testing H3. Part A displays the paired-samples statistics, Part B the paired-samples correlations, and Part C inspects paired-samples test results in the hypothesis (discriminating among important demographic differe

Independent Variables	Statistics	Global gambling in fantasy sports problematic for society	Education level	Age level (years)	Disposable income level (US\$)
Global gambling in fantasy sports problematic for society	Pearson Correlation		1	-0.021	-0.037
	Sig. (2-tailed) N		.008 (HS) 200	.765 (NS) 200	.607 (NS) 200
Education level	Pearson Correlation		1	0.279	0.321
	Sig. (2-tailed) N			<.001 (HS) 200	<.001 (HS) 200
Age level (years)	Pearson Correlation			1	0.716
	Sig. (2-tailed) N				<.001 (HS) 200
Disposable income level (US\$)	Pearson Correlation				1

NS denotes no significance at the 0.05 level for a two-tailed test; HS denotes highly significant at the .01 level for a two-tailed test.

Table 25 Pearson correlations among global gambling in fantasy sports problematic for society and selected quantitative demographic variables.

Part A. ANOVA results.

Independent Variables	Source of Variation	Sum of Squares	df	Mean Square	F-ratio	Significance
Education level	Between Groups	8.718	4	2.179	3.032	.019 (S)
	Within Groups	140.162	195	0.719		
	Total	148.880	199			

Age level (years)	Between Groups	7.169	4	1.792	0.839	.502 (NS)
	Within Groups	416.426	195	2.136		
	Total	423.595	199			
Disposable income level (US\$)	Between Groups	12.186	4	3.047	1.220	.304 (NS)
	Within Groups	487.009	195	2.497		
	Total	499.195	199			

NS denotes not statistically significant at the .05 level for a two-tailed test; S denotes statistically significant at the .05 level for a two-tailed test.

Part B. Education level.

Global gambling in fantasy sports problematic for society	N	Subset for alpha = .05	
		1	2
Always	5	1.80	
Moderately	78		2.51
Often	35		2.66
Rarely	46		2.80
Never	36		2.92

Means for groups in homogeneous subsets are displayed, using Harmonic Mean Sample Size = 17.188, group sizes are unequal so the harmonic mean of the group sizes was used. Type I error levels are not guaranteed. Type 1/Type 2 Error Seriousness Ratio = 100.

Table 26 Relevant Waller-Duncan multiple comparisons statistics associated with testing specific research hypothesis H3 results as a function global gambling in fantasy sports problematic for society via demographic characteristics.

4.0 GENERAL CONCLUSIONS AND IMPLICATIONS

This section deals with the basic summary of the statistical analysis, followed by an empirical and social discussion and implications of the results. In general, the implications of the hypothesis-testing results suggest that social consciousness and the spread of fantasy sports-related gambling into more serious global concerns for society (e.g., reframed in terms of addiction and economic ruin are minimal, especially for certain segments of women, older, better educated, and wealthier professionals). Apparently, global controversies associated with fantasy sports engagement may be seen as more of a social problem by younger, less educated, and less wealthy working professionals.

4.1 Empirical implications

At the time of the present study, approximately 30 million fans are actively engaged in fantasy sports and related gaming activities in the U.S. alone, while such gaming activities are growing globally at an accelerated rate. In general, relatively little is known about the personality, attitudes, and intentions of fantasy sports game participants. There are few scholarly research efforts on this growing trend, with even less research on gender differences. The implications of the hypothesis-testing results may be many, but the major considerations are that social consciousness and the spread of fantasy sports-related gambling into more serious global concerns for society in terms of addiction and economic ruin are minimal, especially for women in particular, and older, better educated, and wealthier professionals, in general. In the present study, it was found that of the working professionals, 25% moderately, 30% often, and 18% always thought that the player notes, information, and recommendations were helpful in fantasy sports, indicating that at least in the Pittsburgh, PA region, fantasy sports has a much larger following than what was reported for the general population in 2006 as reported by Allen, et al. (2007).

The attitude towards the growth of the fantasy sports industry has been greatly influenced by word-of-mouth testimonials and successful growth rates of existing websites and their associated customers' usage. Although some may argue that the Pittsburgh, PA metropolitan area has a very strong professional as well as fantasy sports fan base, it is believed that fantasy sports and related gambling are global issues that warrant further discussion and research. Unfortunately, there few empirically-based studies to date that have investigated the effects of fantasy sports gambling as a social phenomenon. Evidently, service providers of fantasy sports must be marketing their services to the right target segments, as its participation is growing and more females are being attracted to a traditionally male-dominated sporting activity. Following fantasy sports, making idealized trades and developing player strategies requires a detailed understanding of the sport and its player-centric dynamic characteristics.

4.2 Social implications

Fantasy sports providers have positioned its offers very well over the years by targeting technologically savvy customers and maintaining links to the professional sports programs that are both creditable and interesting. Although many researchers in CRM-based studies generally agree that customers are not the most reliable source when a company is trying to predict the future, their ability to use and find value in fantasy sport applications play a more vital role in this process in today's society. With emerging technology, customers not only have more of a voice, but they also develop many of the new and innovative products we use today. For instance, smartphone applications (apps) have had a dramatic impact on our technology consumption. Not only do companies develop new apps on a daily basis, but customers do so as well. It is becoming more common for one person to develop a highly successful app with limited funds. Basically, customers are able to see and predict the future by using today's technology. Several decades ago, this idea may have sounded unlikely. In today's world, customers have the ability to create new and innovative products other companies have not

thought of with powerful, yet easy-to-use, technology. Understanding gender differences in marketing fantasy sports is certainly a right step in these directions. The working professionals selected in the present study were relatively split among those who do consider it a potentially significant social problem with those who do (e.g., 56.5% felt it was an issue).

Perhaps there is a carryover effect from young adults who were well versed in video-gaming activities that were able to complete their technological savvy with their love of sports; hence, perceiving little danger for society, regardless of their avid use and amount of financial resources wagered. Interestingly, there are some that argue that the digital divide also impacts fantasy sports as technology may widen the gap among fans that are drawn to actual performance and those who prefer to compete in the cyber-based environment. Additional research on a broader audience needs to be completed in order to compare working professionals in other geographical areas, as well, as other segment of the general population in order to get a better picture of the trends in the fantasy sports industry. The present study should provide a baseline for understanding some of the factors that define the impact of fantasy sport in modern society among employed professionals.

Professionals historically tend to create intellectual webs and connectivity within the organization, networking and culture, and routinely receive incentives for sharing information in order to be successful in their respective these organizations. These attributes also manifest themselves in the in their participation in fantasy sports, fueled by the recent success of Pittsburgh successes in the professional sports of ice hockey and football as associated fantasy sports spinoffs. Understanding how participating fans interact and communicate within fantasy sports and their associated gender differences, should provide useful information is establishing base lines for further investigations. Hence, understanding the sharing of competitive sports-related information and the development of a collaborative environment are interesting topics for future research from an academic perspective.

4.3 Future Research Directions

Every academic discipline struggles with evolutionary changes in society attributes and how contemporary events may be framed in such a way that fits a predictive theory. The present study is certainly no different as it deals with popular issues of employee productivity, sport-related office gambling and pooling with an ethical framework. Essentially, everyone in the office has an opinion on these issues. As research agendas are more accurately formulated in sport-related research, what are the theoretical underpinnings or paradigms that support and give credibility to such research? Researchers Morgan (1983), Frisby (2005), and Pedersen (2013) have written essays to critically analyze the historical evolution of theoretical frameworks that support sport-related research. Researchers apparently either take a microcosm or macro look at the various dimensions of sport management, through the lens of multiple paradigms. We believe that the present study warrants further refinement, especially with the social platforms, like Facebook and Twitter, under increased pessimistic observation of its overall social value.

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References:

- Allen, I. E., Kustov, K., & Recck, G. (2007). *Building a better fantasy baseball team. Quality Progress*, Vol. 40, No. 4, pp. 24-29.
- Anton, J., & Petouhoff, N. (2002). *Customer Relations Management: The Bottom Line to Optimizing Your ROI*. Upper Saddle River, NJ, Prentice Hall.
- Bensaou, M., & Earl, M. (1998). *The right mind set for managing information technology. Harvard Business Review*, Vol. 30, No. 1, pp. 33-50.
- Brock, D. (2006). *Leagues of their own. Nine*, Vol. 15, No. 1, pp. 110-114.
- Chaturvedi, S., & Chakrabarti, D. (2018). *Operational efficiency in manufacturing process using design of experiments. International Journal of Process Management and Benchmarking*, Vol. 7 No. 2, pp. 249-261.
- Cockrell, S., Meyer, D., & Smith, A.D. (2016). *Electronic intervention and platforms and their impacts on crowdfunding behavior. International Journal of Business Information Systems*, Vol. 23, No. 3, pp. 263-286.
- Dautzenberg, K. (2012). *Gender differences of business owners in technology-based firms, International Journal of Gender and Entrepreneurship*, Vol. 4, No. 1, pp. 79-98.
- Davis, D. J. (2012). *Project NFFL, The Niagara Fantasy Football League and sport marketing education. College Student Journal*, Vol. 46, No. 2, pp. 235-242.
- Davis, F. D. (1989). *Perceived usefulness, perceived ease of use and user acceptance of information technology. MIS Quarterly*, Vol. 13, No. 3, pp. 319-340.
- Davis, N. W., & Duncan, M. C. (2006). *Sports knowledge is power, Reinforcing masculine privilege through fantasy sport league participation. Journal of Sport and Social Issues*, Vol. 30, No. 3, pp. 244-253.
- Deng, S., Liu, Y., & Qi, Y. (2011). *An empirical study on determinants of web based question-answer services adoption. Online Information Review*, Vol. 35, No. 5, pp. 789-798.
- Dwyer, B., & Drayer, J. (2010). *Fantasy sport consumer segmentation: An investigation into the differing consumption modes of fantasy football participants. Sports Marketing Quarterly*, Vol. 19, No. 4, pp. 207-216.
- Erlbaum, L. (2006). *Handbook of Sports and Media*. [Online]. Accessed March 26, 2017 at www.nytimes.com/2005/01/22/sports/football/22sportsbiz.html.

Frisby, W. (2005). *The good, the bad, and the ugly: Critical sport management research*, *Journal of Sport Management*, Vol. 19, No. 1, pp. 1-12.

Gothwal, S., & Raj, T. (2018). *Prioritising the performance measures of FMS using multi-criteria decision making approaches*. *International Journal of Process Management and Benchmarking*, Vol. 8 No. 1, pp. 59-78.

Grady, J. (2007). *Fantasy stats case tests limits of intellectual property protection in the digital age*. *Sport Marketing Quarterly*, Vol. 16, No. 4, pp. 230-232.

Hoots, M. (2005). *Customer relationship management for facility managers*. *Journal of Facilities Management*, Vol. 3, No. 4, pp. 346-361.

Hossain, M. S., & Hossain, M. M. (2018). *Application of interactive fuzzy goal programming for multi-objective integrated production and distribution planning*. *International Journal of Process Management and Benchmarking*, Vol. 8, No. 1, pp. 35-58.

Johnson, P. R., & Rawlins, C. (2008). *Employee Internet management, getting people back to work*. *Journal of Organizational Culture, Communication and Conflict*, Vol. 12, No. 1, pp. 43-48

Kailash, Saha, R. K., & Goyal, S. (2018). *Systematic literature review of classification and categorisation of benchmarking in supply chain management*. *International Journal of Process Management and Benchmarking*, Vol. 7, No. 2, pp. 183-205.

Lee, W-Y, Kwak, D. H., Lim, C., Pedersen, P. M., & Miloch, K. S. (2011). *Effects of personality and gender on fantasy sports game participation: The moderating role of perceived knowledge*. *Journal of Gambling Studies*, Vol. 27, No. 3, pp. 427-441.

Liew, C-B. A. (2008). *Strategic integration of knowledge management and customer relationship management*, *Journal of Knowledge Management*, Vol. 12, No. 4, pp. 131-146

Lin, C. J-S., & Chang, H-C. (2011). *The role of technology readiness in self-service technology acceptance*. *Managing Service Quality*, Vol. 21, No. 4, pp. 424-444.

Maldonado, U. P. T., Khan, G. F. Moon, J., & Rho, J. J. (2011). *E-learning motivation and educational portal acceptance in developing countries*, *Online Information Review*, Vol. 35, No. 1, pp. 66-85.

Messarra, L. C., Karkouliau, S., & McCarthy, R. (2011). *To restrict or not to restrict personal Internet usage on the job*. *Education, Business and Society, Contemporary Middle Eastern Issues*, Vol. 4, No. 4, pp. 253-266.

Moorman, A. M. (2008). *Fantasy sports leagues challenged as illegal gambling*. *Sport Marketing Quarterly*, Vol. 17, No. 4, pp. 232-234.

Morgan, W. J. (1983). *Toward a critical theory of sport*. *Journal of Sport and Social Issues*, Vol. 7, No. 1, pp. 24-34.

Nesbit, T. M., & King, K. (2010). *Impact of fantasy football participation on NFL attendance*. *Atlantic Economic Journal*, Vol. 38, No. 1, pp. 95-108.

- Oey, E., & Nofrimurti, M. (2018). *Lean implementation in traditional distributor warehouse - a case study in an FMCG company in Indonesia*. *International Journal of Process Management and Benchmarking*, Vol. 8, No. 1, pp. 1-15.
- Ong, C-S, & Lai, J-Y. (2006). *Gender differences in perceptions and relationships among dominants of e-learning acceptance*. *Computers in Human Behavior*, Vol. 22, No. 5, pp. 816-829.
- Perez, J. (2001). *NFL tackles online CRM*. [Online]. Accessed March 26, 2017 at <http://www.destinationcrm.com>.
- Pries, C., & Stone, M. (2004). *Managing CRM implementation with consultants-CRM or change management*. *Journal of Change Management*, Vol. 4, No. 4, pp. 351-370.
- Rajeev, V., Rajagopal, & Mercado, P.R. (2013). *Impact of service co-creation on performance of firms: The mediating role of market oriented strategies*. *International Journal of Services and Operations Management*, Vol. 15, No. 4, pp. 449-466.
- Rothstein, J., Liva, P., & Stinson, C. (2007). *Don't get tangled in the Web*. *Veterinary Economics*, Vol. 48, No. 1, pp. 64-68.
- Shandler, R. (2009). *Fantasy sports is gambling/you have no idea?* *The Huffington Post*. [Online]. Accessed March 26, 2017 at http://www.huffingtonpost.com/ron-shandler/fantasy-sports-is-gamblin_b_397456.html.
- Sharma, A., & Sharma, R. K. (2018). *Modelling and analysis of enablers for successful implementation of cellular manufacturing system*. *International Journal of Process Management and Benchmarking*, Vol. 8 No. 1, pp. 103-123.
- Suh, Y. I. (2012). *Examining the psychological factors associated with fantasy sports participants*, Dissertation. [Online]. Accessed March 26, 2017 at <http://udini.proquest.com/view/examining-the-psychological-factors-goid,594581088/>.
- Smith, A. A., Smith, A. D., & Offodile, O. F. (2011). *March madness and perceived influences on workplace productivity by business professionals: An exploratory study*. *Sport, Business, Management: An International Journal*, Vol. 1, No. 1, pp. 23-45.
- Smith, A.D. (2017). *Exploring the inherent growth of e-tailing via e-personalization and technological innovations*. *International Journal of Innovations in the Digital Economy*, Vol. 8, No. 1, pp. 19-46.
- Smith, A.D., & Clinton, S.R. (2016). *Exploring factors that lead to people watching professional soccer on television*. *Journal of Electronic Commerce in Organizations*, Vol. 14, No. 4, pp. 63-92.
- Smith, A.D., & Offodile, O.F. (2016). *Ethical and managerial aspects of social network advertisement*. *Journal of Electronic Commerce in Organizations*, Vol. 14, No. 4, pp. 27-49.
- Rigby, D., & Ledingham, D. (2004). *CRM done right*. *Harvard Business Review*, Vol. 82, No. 11, pp. 118-129.

Vasumathi, A. (2018). *Work life balance of women employees: A literature review. International Journal of Services and Operations Management, Vol. 29, No. 1, pp. 100-146.*

Venkatesh, V., & Morris, M. G. (2000). *Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior, MIS Quarterly, Vol. 24, No. 1, pp. 115-139.*

Verma, P., Sharma, R. R. K., & Kumar, V. (2018). *The sustainability issues of diversified firms in emerging economies context: A theoretical model and propositions. International Journal of Process Management and Benchmarking, Vol. 7 No. 2, pp. 224-248.*

Wang, Y., & Feng, H. (2012). *Customer relationship management capabilities. Management Decision, Vol. 50, No. 1, pp. 115-129.*

Xu, Y., Tiwari, A., Chen, H. C., & Turner, C. J. (2018) *Development of a validation and qualification process for the manufacturing of medical devices: A case study based on cross-sector benchmarking. International Journal of Process Management and Benchmarking, Vol. 8, No. 1, pp. 79-102.*

Yazdi, A. K., & Esfeden, G. A. (2018). *Designing robust model of Six Sigma implementation based on critical successful factors and MACBETH. International Journal of Process Management and Benchmarking, Vol. 7 No. 2, pp. 158-171.*

Yeh, J-C., Hsiao, K-L., & Yang, W-N. (2012). *A study of purchasing behavior in Taiwan's online auction websites: Effects of uncertainty and gender differences. Internet Research, Vol. 22, No. 1, pp. 98-115.*

Young, I. S., & Pedersen, P. M. (2010). *A conceptual framework of influences on fantasy sports consumption. Sports Marketing Quarterly, Vol. 19, No. 2, pp. 78-87.*

Keywords: customer relations management, empirical, fantasy sports, gender, information technology, market strategy.

Relevance to Marketing Educators, Researchers, and Practitioners:

This empirical study is relevant to retailers/marketers and researchers in dealing with engagement and ethical issues in sport management issues.

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